

**The Retail Price Index
in
Plain Language**

National Statistics Office, Malta, 2008

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Introduction

All goods and services that are bought by consumers have a price, which may vary over time. Our economic and social life revolves around variations in the prices that we as consumers pay for goods and services, since these changes often bring about inflation. Inflation affects several of our sources of income including wages, salaries, the rents we pay and receive, allowances, benefits, pensions and savings.

This guide sets out the procedures used by the National Statistics Office (NSO) to produce the Retail Price Index (RPI). It is primarily aimed at those users of consumer price indices who wish to undertake a reasonable analysis of the data and processes used in the calculation of these indices, as well as to users in general.



What is the RPI? – The Shopping Basket Concept

No two households spend their money in exactly the same way. Having said this, many exponents of the RPI find it useful to explain it in terms of a shopping basket containing those goods and services that form part of individuals' and families' typical spending patterns. The RPI is not, strictly speaking, a measure of inflation. It measures movements in prices and is therefore a valid indicator of the impact of inflation on family budgets. Changes in the prices of individual items of expenditure are reflected in the changing cost of this 'fixed' basket. In this sense, it is a widely-used tool by economic and social analysts and by policymakers.



Principles Governing the RPI

The two main principles that underpin the RPI are:

- consistency from one year to the next in the representative basket of goods and services for which prices are collected every month from retail outlets;
- a method by which the importance of different items of expenditure is adequately reflected in the Index.



Households spend more on items than on others. This factor is dealt with in the RPI by means of a technical process called weighting. The weighting process, applied to all the groups of items, is known as the Index's weighting frame.

Population Coverage of the RPI

The RPI takes into consideration the consumption expenditure that private households incur locally.



Compiling the Index

NSO has a team of price collectors who, each month, take price readings from over 400 shops throughout Malta and Gozo. Approximately 8,700 readings per month are collected.

The RPI basket of goods and services is made up of some 350 items. The items correspond to the various categories of the Index, 10 in number. These are:

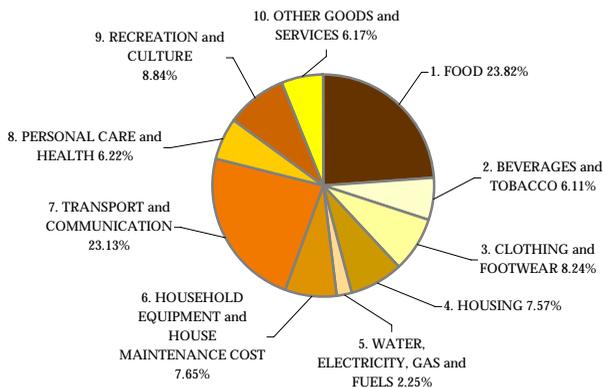
- Food
- Beverages and Tobacco
- Clothing and Footwear
- Housing
- Water, Electricity, Gas and Fuels
- Household Equipment and House Maintenance Cost
- Transport and Communication
- Personal Care and Health
- Recreation and Culture
- Other Goods and Services

About one-third of the items relate to food, beverages and tobacco; 15 per cent comprise clothing and footwear items, 11 per cent relate to recreation and culture and nine per cent to household equipment and house maintenance items. The personal care and health category, comprising medicines, healthcare and beauty products, accounts for nine per cent of the basket while transport and communication garner eight per cent.

Month by month, the price collectors visit outlets and examine the same items or very close substitutes. This enables a like-with-like comparison over time – this characteristic is the cornerstone of the Index. Fees for services, including those related to education and medical services, are examined by means of postal, telephonic and electronic surveys held by NSO among a sample of households, educational establishments and professionals.

The reliability of the RPI is dependent on the skills of the NSO price collectors and the willingness of retailers and service providers to provide the correct information. See the chart on page 8 for a detailed breakdown.

Structure of the RPI (Base Dec 2002=100)



1. Fresh bread and fresh pastry; Cereals; Flour, bakery products, biscuits and rusks; Pasta; Red and white meat; Eggs; Dairy products; Refined oils; Ice-cream; Sugar; Chocolate; Other foods; Tea, coffee and cocoa; Served food and take-aways; Seasonal Items incl. fresh vegetables, fruit and fish.
2. Non-alcoholic/alcoholic beverages (incl. wine and beer); Served non-alcoholic/alcoholic beverages; Cigarettes.
3. Clothing materials bought by metre; Garments (Male and Female); Babies' garments; Garment-related services; Footwear.
4. Rentals; Materials for dwelling maintenance and repair; Electricity equipment and miscellaneous articles; Various construction works; Parts of household appliances.
5. Water charges; Electricity charges; Gas; Liquid Fuels.
6. Decoration articles; Furniture; Carpets; Household textiles; Household textile articles; Household appliances (electrical and other); Glassware, tableware and household utensils.
7. Air transport services; Motor cars, Car parts; Fuels; Maintenance and repair services of cars; Tests and licences; Land transport services; Sea transport services; Postal services; Telephone and telephone services.
8. Medicines; Therapeutic appliances and equipment; Medical services; Dental services; Hospital services; Hairdressing and personal grooming services; Hygienic articles/Toilet preparations/Make-up articles.
9. Audio-visual equipment; Sports equipment; Plants and flowers; Recreational/Entertainment services; Hiring/Leasing for events; Stationery and toys; Education expenses; Books and newspapers.
10. Services for pets/Pet food; Jewellery, watches and clocks; Other personal effects; Travel articles; Non-durable household goods; Domestic help and employed persons; Insurance; Financial Services; Other services n.e.c.

Updating the Index – The Household Budgetary Survey as a Tool

The importance of keeping the Index up to date and in line with changing trends in the demand for goods and services cannot be overstated. A useful tool in this respect, from the statistical point of view, is the Household Budgetary Survey or the HBS, as it is better known. This survey is held approximately every five years among a large sample of private households (gross sample of around 7,000), and is crucial to the identification of the products and services most purchased by household members, and how these change over time. For example, a trend has been observed in the past decade to the effect that, while spending on food remains substantial, other ‘climbers’ in the expenditure ladder have caught up: these include travel, IT and communication equipment, and entertainment.

Once these particular goods and services have been identified by means of the HBS, adjustments to the set of weights are made in respect of the items making up the Retail Price Index. The process of weighting is technical but in essence, it refers to determining the importance of each item making up the basket of goods and services, such that the impact on the overall index of the respective items reflects the importance of the different items of expenditure in the budgets of consumers.

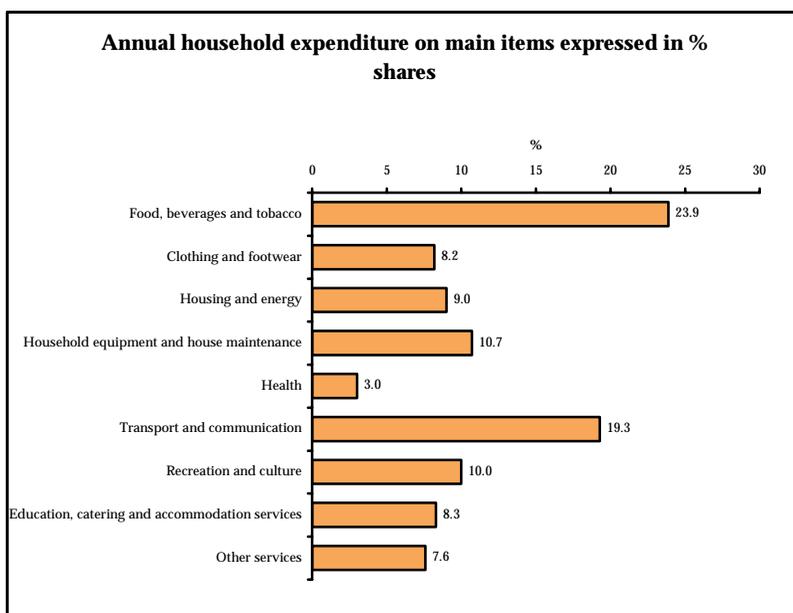
In some countries, for example in the UK, the Household Budgetary Survey is a continuous investigation into household expenditure habits carried out throughout the year. This enables the adjustment of the set of weights at the beginning of each year.



The Household Budgetary Survey – a Background

The first scientific enquiry into the spending habits of households was probably carried out in 1936 by the Commissioner of Labour and Emigration among 100 workers' households. A "cost of living" index was constructed in the following year. Other partial enquiries were conducted between 1943 and 1969. Full-scale national budgetary surveys, covering a wider typology of households from different localities in Malta and Gozo, started being carried out in 1971. The last HBS was held in 2000/2001, while the 2008 edition is in progress.

The following chart presents a broad breakdown of annual household expenditure as part of the main findings of the 2000/01 HBS, published in 2003:



The Reference or Base Period

The RPI measures price changes and not price levels. As such, it has to be expressed in terms of a reference period that is usually fixed following a completed household budgetary survey. Therefore, the current Index has a weighting frame determined on the result of the HBS 2000/01. At present, the fixed reference period of the RPI is December 2002. In RPI news releases and other NSO publications, this is denoted by the phrase: “December 2002=100”.

For example, the January 2004 index stood at 102.20 while the January 2008 index was calculated at 112.42. Translated into simple terms, this means that €238.06 (Lm102.20) could buy the same amount of goods and purchases at the end of January 2004 as €232.94 (Lm100) could have bought at the end of December 2002. In January 2008, a consumer would have had to spend €261.87 (Lm112.42) to buy the ‘same’ basket of goods and services.

In itself, the reference period is of no particular significance. It merely serves as a landmark for comparison and has no actual effect on the measurement of price changes from month to month. Since 1946, the reference period has been changed several times. Comparisons may be obtained by linking the various indices but long-term comparisons should be undertaken with caution since each index is based on a different weighting frame.



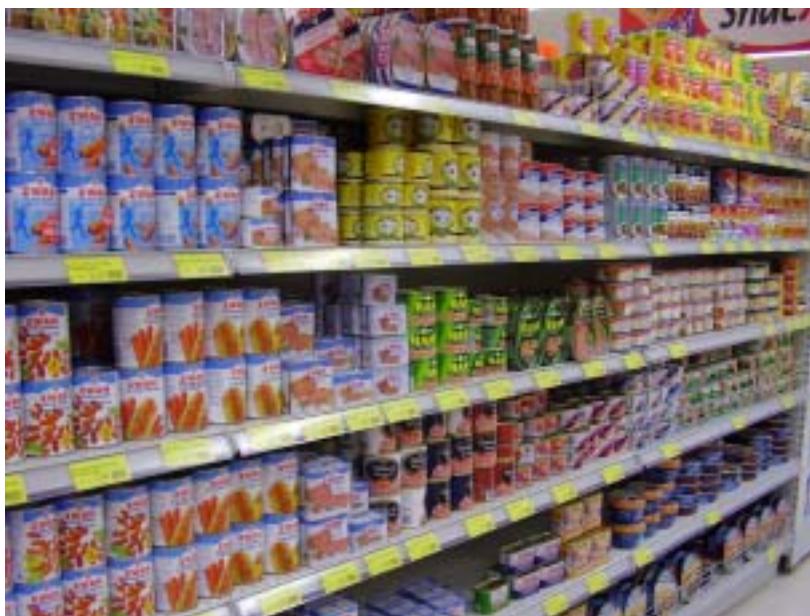
The Index Date

In Malta the RPI always refers to the end of the month. Since it is obviously impractical for price readings to be taken on any one day, the NSO price collectors carry out their work around the middle of every month. Many items are examined every month, others less so. The prices of those items that are observed to be highly volatile are examined at frequent stages during the month being reported on and are then averaged in order to arrive at a mean monthly representative price. Then again, to deal with substantial price fluctuations for seasonal items, a system of sub-weights provides an in-built mechanism to provide the adjustments to counteract this factor, as the need may be.



A “Cost of Living” Index?

The RPI is not an index that measures the cost of living although it is often portrayed as such and widely used for this purpose. As said earlier, it keeps track of how prices change over time by means of a series of observations and provides the results for groups and sub-groups of items in tabulated form. Furthermore, the cost of living as a concept is a subjective one and is conditioned by the reality that many different factors characterise different households. The RPI simply provides a basic measurement of what an ‘average’ household would need to spend in order to buy the same goods and services it might have bought at the base period of the Index. Its strength lies in comparisons over different periods, on a like-with-like basis. As such, it is a good indicator of the impact of inflation on the cost of living.



Three measures of inflation

Each news release on the RPI includes three different measures of inflation:

- The **monthly rate** compares price levels between the month being reported on and the month preceding it. Although up to date, this rate can be affected by seasonal and other effects.
- The **annual rate** measures price changes between the month being reported on and the corresponding month of the previous year. This indicator has its limitation in that it can be influenced by one-off effects in either month.
- The **12-month moving average rate**, used officially as the inflation index in Malta, overcomes the volatility of the above two rates by comparing average retail price indices in the 12 months inclusive of the month being reported on to the average of the previous 12 months. This method is less sensitive to transient changes in prices.

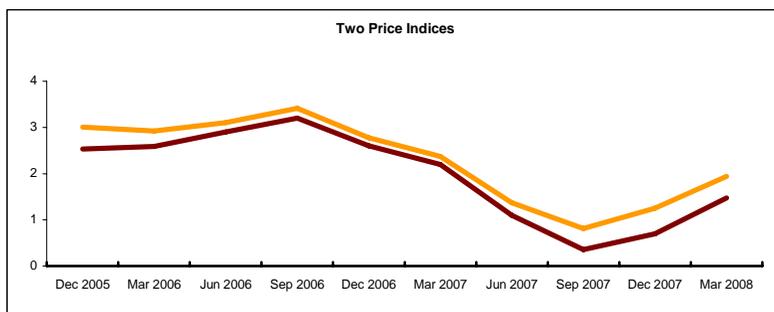


Two Consumer Price Indices

Since 2002, Malta joined the EU Member States in publishing the Harmonised Index of Consumer Prices (HICP) alongside the RPI. The co-existence and publication of two consumer price indices could give rise to some confusion among users of statistics and the general public. The truth is, however, that the two indices are characterised by similarities as well as dissimilarities, and are used for different purposes. The HICP and the RPI are alike in that they are based on the same sources of information. In spite of this, the different methods used mean that monthly price changes calculated for the two indices may move in opposite directions. However, in the long run, differences are minimal.

Some of the main dissimilarities are:

- the HICP includes the expenditure that foreign visitors to Malta incur in this country. This means that the two indices have two different ‘baskets’ of goods and services. The HICP also includes hotel prices, which do not form part of the RPI.
- the HICP’s weighting frame may be revised every year, while that of the RPI is generally revised every five years or so, on the basis of the HBS results.
- the HICP is compiled according to harmonised standards and definitions that are the same for all EU Member States and is the indicator used to determine the inflation rate across the EU. The RPI is specific to the local scene and is used to determine cost-of-living increases and rent payments.



The Impact of the Changeover to the Euro

On 21 February 2008, members of the European statistical office, Eurostat, visited the National Statistics Office with a view to assessing the impact of the changeover on the Harmonised Index of Consumer Prices. In order to arrive at this assessment, Eurostat and NSO met with national stakeholders. In Eurostat's opinion, some unusual price rises were seen in Malta in December 2007 and January 2008, for example in respect of telecommunications, cars, alcoholic drinks and repairs. This occurred against a background of an EU annual inflation rate of 3.4% in February 2008 and therefore, Eurostat considered that, although noticeable, euro changeover effects in Malta in the first two months of 2008 were not of a magnitude to drive headline inflation.

The provisional estimate of Eurostat was that the total effect of the changeover on consumer price inflation in the period around the time of this event was between 0.2 and 0.3 percentage points. This estimate is close to the experience of Cyprus, which converted to the euro at the same time as Malta, to the experience of Slovenia, where the changeover took place in 2007, and to the experience of the countries which were the first to convert to the single currency in 2002.



The RPI – Inflation Indices and Inflation Rates

Year	Inflation Index	Inflation Rate	Year	Inflation Index	Inflation Rate
1946	100.00	-	1977	281.84	10.01
1947	104.90	4.90	1978	295.14	4.72
1948	113.90	8.58	1979	316.21	7.14
1949	109.70	-3.69	1980	366.06	15.76
1950	116.90	6.56	1981	408.16	11.50
1951	130.10	11.29	1982	431.83	5.80
1952	140.30	7.84	1983	428.06	-0.87
1953	139.10	-0.86	1984	426.18	-0.44
1954	141.20	1.51	1985	425.17	-0.24
1955	138.80	-1.70	1986	433.67	2.00
1956	142.00	2.31	1987	435.47	0.42
1957	145.70	2.61	1988	439.62	0.95
1958	148.30	1.78	1989	443.39	0.86
1959	151.10	1.89	1990	456.61	2.98
1960	158.80	5.10	1991	468.21	2.54
1961	164.84	3.80	1992	475.89	1.64
1962	165.16	0.19	1993	495.59	4.14
1963	168.18	1.83	1994	516.06	4.13
1964	172.00	2.27	1995	536.61	3.98
1965	174.70	1.57	1996	549.95	2.49
1966	175.65	0.54	1997	567.08	3.11
1967	176.76	0.63	1998	580.61	2.39
1968	180.42	2.07	1999	593.00	2.13
1969	184.71	2.38	2000	607.07	2.37
1970	191.55	3.70	2001	624.85	2.93
1971	196.00	2.32	2002	638.54	2.19
1972	202.52	3.33	2003	646.84	1.30
1973	218.26	7.77	2004	664.88	2.79
1974	234.16	7.28	2005	684.88	3.01
1975	254.77	8.80	2006	703.88	2.77
1976	256.20	0.56	2007	712.68	1.25